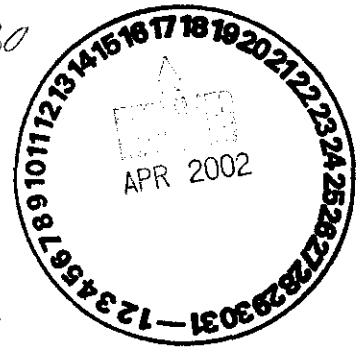
0057624 H1730



Lionville Laboratory, Inc.
VOA ANALYTICAL DATA PACKAGE FOR
TNUHANFORD B99-093 H1730

DATE RECEIVED: 03/26/02 LVL LOT # :0203L264

CLIENT ID	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
B14C91	001 M1	SO	02LVH129	03/25/02	N/A	04/04/02
B14C91	001 MS M1	SO	02LVH129	03/25/02	N/A	04/04/02
B14C91	001 MSD M1	SO	02LVH129	03/25/02	N/A	04/04/02
B14C92	002 M1	SO	02LVH129	03/25/02	N/A	04/04/02
B14C93	003 M1	SO	02LVH129	03/25/02	N/A	04/04/02
B14C94	004 M1	SO	02LVH129	03/25/02	N/A	04/04/02
B14C95	005 M1	SO	02LVH129	03/25/02	N/A	04/04/02
B14C96	006 M1	SO	02LVH129	03/25/02	N/A	04/04/02
LAB QC:						
VBLKRA	MB1	S	02LVH129	N/A	N/A	04/04/02
VBLKRA	MB1 BS	S	02LVH129	N/A	N/A	04/04/02

EDMC

LIONVILLE LABORATORY INC.

Client: TNU-HANFORD B99-093
LVL #: 0203L264
SDG/SAF #: H1730/B99-093

W.O. #: 11343-606-001-9999-00
Date Received: 03-26-2002

GC/MS VOLATILE

Six (6) solid samples were collected on 03-25-2002.

The samples and their associated QC samples were analyzed according to criteria set forth in Lionville Laboratory OPs based on SW 846 Method 8260B for Carbon Tetrachloride on 04-04-2002.

The following is a summary of the QC results accompanying these sample results and a description of any problems encountered during their analyses:

1. All results presented in this report are derived from samples that met LvLI's sample acceptance policy.

2. The required analysis holding time was met.

3. Non-target compounds were detected in the samples.

4. All samples were analyzed medium level and required an additional 10 to 50-fold dilution due to high levels of the target compound.

5. All surrogate recoveries were within EPA QC limits.

6. The matrix spike recoveries were within EPA QC limits.

7. The blank spike recovery was within EPA QC limits.

8. Internal standard area and retention time criteria were met.

9. "I certify that this sample data package is in compliance with SOW requirements, both technically and for completeness, other than the conditions detailed above. Release of the data contained in this hard-copy data package has been authorized by the Laboratory Manager or a designee, as verified by the following signature."

by _____ 04-11-02
J. Michael Taylor — Date
President
Lionville Laboratory Incorporated

som\group\data\voa\tnu-hanford\0203-264.doc

The results presented in this report relate only to the analytical testing and conditions of the samples at receipt and during storage. All pages of this report are integral parts of the analytical data. Therefore, this report should only be reproduced in its entirety of 1 0 pages.

208 Welsh Pool Road • Lionville, PA 19341-1333 • (610) 280-3000 • Fax (610) 280-3041

GLOSSARY OF VOA DATA

DATA QUALIFIERS

U = Compound was analyzed for but not detected. The associated numerical value is the estimated *sample quantitation limit which is included and corrected for dilution and percent moisture.*

J = Indicates an estimated value. This flag is used under the following circumstances: 1) when estimating a concentration for tentatively identified compounds (TICs) where a 1:1 response is assumed; or 2) when the mass spectral data indicate the presence of a compound that meets the *identification criteria but the result is less than the specified detection limit but greater than zero.* For example, if the limit of detection is 10 ug/L and a concentration of 3 ug/L is calculated, it is reported as 3J.

B = This flag is used when the analyte is found in the associated blank as well as in the sample. It *indicates possible/probable blank contamination. This flag is also used for a TIC as well as for* a positively identified TCL compound.

E = Indicates that the compound was detected beyond the calibration range and was subsequently analyzed at a dilution.

D = Identifies all compounds identified in an analysis at a secondary dilution factor.

I = Interference.

NQ = Result qualitatively confirmed but not able to quantify.

N = Indicates presumptive evidence of a compound. This flag is only used for tentatively identified compounds (TICs), where the identification is based on a mass spectral library search. It is applied to all TIC results. For generic characterization of a TIC, such as chlorinated hydrocarbon, the N code is not used.

X = *This flag is used for a TIC compound which is quantified relative to a response factor generated* from a daily calibration standard (rather than quantified relative to the closest internal standard).

Y = Additional qualifiers used as required are explained in the case narrative.

GLOSSARY OF VOA DATA

ABBREVIATIONS

BS	=	Indicates blank spike in which reagent grade water is spiked with the CLP matrix spike solutions and carried through all the steps in the method. Spike recoveries are reported.
BSD	=	Indicates blank spike duplicate.
MS	=	Indicates matrix spike.
MSD	=	Indicates matrix spike duplicate.
DL	=	Suffix added to sample number to indicate that results are from a diluted analysis.
NA	=	Not Applicable.
DF	=	Dilution Factor.
NR	=	Not Required.
SP, Z	=	Indicates Spiked Compound.

TECHNICAL FLAGS FOR MANUAL INTEGRATION

Manual quantitation modifications or integrations are performed routinely to improve the data quality for a variety of technical reasons. Documentation of these modifications should be clear and concise. The following "flags" are used to indicate the technical reasons for quantitation modifications:

MP - Missed Peak: manually added peak not found by automatic quantitation program.

PA - Peak Assignment: quantitation report was changed to reflect correct peak assignment.

RI - Routine Integration: routine integrations are performed for some analytes that are consistently integrated improperly by the automatic integration programs. Examples are the dichlorobenzene isomers on the VOA packed column and benzo(b)fluoranthene/benzo(k)fluoranthene which are poorly resolved on the BNA column.

SP - Split Peak: the automatic integration improperly split the peak; a manual integration was performed to get the correct area.

CB - Coelution/Background: peak was manually integrated to eliminate contribution from coeluting compounds, background signal, or other interference.

PI - Proper Integration: a peak with poor or inconsistent integration (e.g., excessive tail) was properly integrated manually.

Lionville Laboratory, Inc.
Volatiles By GC/MS, Special List Report Date: 04/08/02 16:36
RFW Batch Number: 0203L264 Client: TNUHANFORD B99-093 H1730 Work Order: 11343606001 Page: 1a

	Cust ID:	B14C91	B14C91	B14C91	B14C92	B14C93	B14C94
Sample Information	RFW#:	001	001 MS	001 MSD	002	003	004
	Matrix:	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID
	D.F.:	95.2	95.2	95.2	47.6	42.1	20.5
	Units:	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
	Level:	MED	MED	MED	MED	MED	MED
Surrogate Recovery	1,2-Dichloroethane-d4	94 %	102 %	104 %	97 %	97 %	94 %
	Toluene-d8	98 %	95 %	96 %	95 %	96 %	95 %
	Bromofluorobenzene	85 %	96 %	96 %	88 %	90 %	86 %
Carbon Tetrachloride		650000	78 %	75 %	440000	410000	230000

	Cust ID:	B14C95	B14C96	VBLKRA	VBLKRA BS
Sample Information	RFW#:	005	006	02LVH129-MB1	02LVH129-MB1
	Matrix:	SOLID	SOLID	SOIL	SOIL
	D.F.:	2.00	95.2	2.00	2.00
	Units:	UG/KG	UG/KG	UG/KG	UG/KG
	Level:	MED	MED	MED	MED
Surrogate Recovery	1,2-Dichloroethane-d4	94 %	98 %	97 %	100 %
	Toluene-d8	94 %	97 %	95 %	96 %
	Bromofluorobenzene	97 %	88 %	87 %	95 %
Carbon Tetrachloride		1300	1200000	620 U	101 %

*= Outside of EPA CLP QC limits.

Lionville Laboratory Use Only

0203L264

Custody Transfer Record/Lab Work Request

Page 1 of 1

LVLI

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Client: HANFORD SAF B99-093

Est. Final Proj. Sampling Date

Project #: 11343-606-001-9999-00

Project Contact/Phone #

Lionville Laboratory Project Manager: OJ

QC: SPEC Del: STD TAT: 30 days

Date Rec'd: 3-26-02 Date Due: 4-25-02

	Value
Refrigerator #	1
#/Type Container – Liquid	
#/Type Container – Solid	1/Gc
Volume – Liquid	
Volume – Solid	250
Preservatives	—

ANALYSES REQUESTED → ORGANIC: VOA, BNA, Pest/PCB, Herb; INORG: Metal, CN

Lionville Laboratory Use Only

MATRIX CODES: S - Soil; SE - Sediment; SO - Solid; SL - Sludge; W - Water; O - Oil; A - Air; DS - Drum Solids; DL - Drum Liquids; L - EP/TCLP Leachate; WI - Wipe; X - Other; F - Fish

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	0624X 1% MST
001	B14C91			SO	3-25-02	1010	1
002	92			↓	↓	1020	1
003	93					1025	1
004	94					1035	1
005	95					1045	1
006	96					1055	1

Special Instructions: SAF # B99-093

VOA - Carbon Tetrachloride

Run Matrix QC

DATE/REVISIONS:

1.
2.
3.
4.
5.
6.

Lionville Laboratory Use Only

Samples were: 1) Shipped ✓ or Hand Delivered ___
Airbill # See Before
2) Ambient or Chilled
3) Received in Good Condition (Y) or N
4) Samples Properly Preserved (Y) or N
5) Received Within Holding Times (Y) or N

Tamper Resistant Seal was:
1) Present on Outer Package (Y) or N
2) Unbroken on Outer Package (Y) or N
3) Present on Sample (Y) or N
4) Unbroken on Sample (Y) or N

COC Record Present Upon Sample Rec't (Y) or N

Cooler Temp. 4 °C

Relinquished by	Received by	Date	Time
[signature]	[signature]	3-26-02	1145

Relinquished by	Received by	Date	Time
COMPOSITE WASTE	ORIGINAL REWRITTEN		

Discrepancies Between Samples Labels and COC Record? Y or (N)

NOTES: 7918 0206 4709

Bechtel Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	B99-093-42	Page 1 of 2
Collector Doug Bowers	**Company Contact** Virginia Rohay **Telephone No.** 372-9100	**Project Coordinator** TRENT, SJ	**Price Code** 9N **Data Turnaround** 45 Days
Project Designation 200-ZP-2 Passive Soil Vapor Extraction - Other Solid	**Sampling Location** 200 West	**SAF No.** B99-093	**Air Quality** ☐
Ice Chest No. ERC-01-063	**Field Logbook No.** EL-1562-1 **COA** R20ZP2DP60	**Method of Shipment** Federal Express	
Shipped To TMA/RECRA	**Offsite Property No.** A020140	**Bill of Lading/Air Bill No.** See OSPC	

POSSIBLE SAMPLE HAZARDS/REMARKS
Samples did not originate in radiological controlled area. No total activity associated with sample/samples. ZT
Special Handling and/or Storage

Preservation	Cool 4C											
Type of Container	G											
No. of Container(s)	1											
Volume	250mL											
SAMPLE ANALYSIS	VOA - 8260A (TCL) (Carbon tetrachloride); Moisture Content - D2216											

Sample No.	Matrix *	Sample Date	Sample Time									
B14C91	OTHER SOLID	3-25-02	1010	X					W18-6			
B14C92	OTHER SOLID	3-25-02	1020	X					W18-7			
B14C93	OTHER SOLID	3-25-02	1025	X					W18-10			
B14C94	OTHER SOLID	3-25-02	1035	X					W18-11			
B14C95	OTHER SOLID	3-25-02	1045	X					W18-2447			

CHAIN OF POSSESSION

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Doug Bowers	3-25-02/1130	R.P. Thorer	1150 3.25.02
R.P. Thorer ERC	3.25.02 1200	FEDEX	
FedEx	3.26-02 1140	C. Stevens	3.26-02 1140

SPECIAL INSTRUCTIONS
** Laboratory may use medium level preparation for VOA. They are to report any other halogenated compounds found.
** Laboratory must include the % Moisture data as part of all hard copy reports.

Matrix *
S=Soil
SD=Sediment
SO=Solid
SL=Sludge
W = Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
WI=Wipe
L=Liquid
V=Vegetation
X=Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

Bechtel Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	B99-093-42	Page 2 of 2
Collector: Doug Bowers	Company Contact: Virginia Rohay; Telephone No.: 372-9100	Project Coordinator: TRENT, SJ	Price Code: 9N; Data Turnaround: 45 Days; Air Quality ☐
Project Designation: 200-ZP-2 Passive Soil Vapor Extraction - Other Solid	Sampling Location: 200 West	SAF No.: B99-093	
Ice Chest No.: ERC-01-0603	Field Logbook No.: EL-1562-1; COA: R20ZP2DP60	Method of Shipment: Federal Express	
Shipped To: TMA/RECRA	Offsite Property No.: A02040	Bill of Lading/Air Bill No.: See OSPC	

POSSIBLE SAMPLE HAZARDS/REMARKS
Samples did not originate in radiological controlled area. No total activity associated with sample/samples.
Special Handling and/or Storage

Preservation	Cool 4C											
Type of Container	aG											
No. of Container(s)	1											
Volume	250mL											
SAMPLE ANALYSIS	VOA - 8260A (TCL) (Carbon tetrachloride); Moisture Content - D2216											
Sample No.	Matrix *	Sample Date	Sample Time									
B14C96	OTHER SOLID	3-24-02	1055	X			WR-252					
~~B14C97~~	~~OTHER SOLID~~											
~~B14C98~~	~~OTHER SOLID~~	3/24/2002										

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By/Removed From: Doug Bowers; Date/Time: 3-25-02 1150	Received By/Stored In: RThorer; Date/Time: 1150 3.25.02		
Relinquished By/Removed From: RThorer ERC; Date/Time: 1200 3.25.02	Received By/Stored In: FEDEX; Date/Time:		
Relinquished By/Removed From: FedEx; Date/Time: 3-26-02 1140	Received By/Stored In: [signature]; Date/Time: 3-26-02 1140		
Relinquished By/Removed From:	Date/Time:	Received By/Stored In:	Date/Time:
Relinquished By/Removed From:	Date/Time:	Received By/Stored In:	Date/Time:
Relinquished By/Removed From:	Date/Time:	Received By/Stored In:	Date/Time:

SPECIAL INSTRUCTIONS
** Laboratory may use medium level preparation for VOA. They are to report any other halogenated compounds found.
** Laboratory must include the % Moisture data as part of all hard copy reports.

Matrix *
S=Soil
SD=Sediment
SO=Solid
SL=Sludge
W = Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
WI=Wipe
L=Liquid
V=Vegetation
X=Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

BHI-EE-011 (03/01/2002)

LIONVILLE LABORATORY INCORPORATED
SAMPLE RECEIPT CHECKLIST

CLIENT: HANFORD

Purchase Order/Project:

DATE: 3/26/02

SAF# / SOW# / Release #: B99-093

Laboratory SDG #: 0203L264

NOTE: ALL ENTRIES MARKED "NO" MUST BE EXPLAINED IN THE COMMENT SECTION

1. Custody seals on coolers or shipping container intact, signed and dated?	☑ Yes	☐ No	☐ N/A	☐ see Comment #
2. Outside of coolers or shipping containers are free from damage?	☑ Yes	☐ No	☐ N/A	☐ see Comment #
3. Airbill # recorded?	☑ Yes	☐ No	☐ N/A	☐ see Comment #
4. All expected paperwork received (coc and other client specific: historical data, alpha/beta or other screening data as applicable)? (paperwork sealed in plastic bag and taped to inside lid)	☑ Yes	☐ No	☐ N/A	☐ see Comment #
5. Sample containers are intact?	☑ Yes	☐ No	☐ N/A	☐ see Comment #
6. Custody seals on sample containers intact, signed and dated?	☑ Yes	☐ No	☐ N/A	☐ see Comment #
7. All samples on coc received?	☑ Yes	☐ No	☐ N/A	☐ see Comment #
8. All sample label information matches coc?	☑ Yes	☐ No	☐ N/A	☐ see Comment #
9. Laboratory QC samples designated on coc? (QC stickers placed on bottles?)	☐ Yes	☑ No	☐ N/A	☐ see Comment #
10. Shipment meets LvL1 Sample Acceptance Policy? (identify all bottles not within policy. See reverse side for policy)	☑ Yes	☐ No	☐ N/A	☐ see Comment #
11. Where applicable, bar code labels are affixed to coc?	☐ Yes	☐ No	☑ N/A	☐ see Comment #
12. coc signed and dated?	☑ Yes	☐ No	☐ N/A	☐ see Comment #
13. coc faxed or emailed to client?	☐ Yes	☐ No	☐ N/A	☐ see Comment #
14. Project Manager/Client contacted concerning discrepancies? (name/date)	☐ Yes	☐ No	☐ N/A	☐ see Comment #

Cooler # / temp and Comments:

RC-11063 4

Laboratory Sample Custodian:

Laboratory Project Manager:

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD B99-093 H1730

DATE RECEIVED: 03/26/02 LVL LOT # :0203L264

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
B14C91						
% MOISTURE	001	SO	02L%S031	03/25/02	04/02/02	04/03/02
% MOISTURE	001 REP	SO	02L%S031	03/25/02	04/02/02	04/03/02
% SOLIDS	001	SO	02L%S031	03/25/02	04/02/02	04/03/02
% SOLIDS	001 REP	SO	02L%S031	03/25/02	04/02/02	04/03/02
B14C92						
% MOISTURE	002	SO	02L%S031	03/25/02	04/02/02	04/03/02
% SOLIDS	002	SO	02L%S031	03/25/02	04/02/02	04/03/02
B14C93						
% MOISTURE	003	SO	02L%S031	03/25/02	04/02/02	04/03/02
% SOLIDS	003	SO	02L%S031	03/25/02	04/02/02	04/03/02
B14C94						
% MOISTURE	004	SO	02L%S031	03/25/02	04/02/02	04/03/02
% SOLIDS	004	SO	02L%S031	03/25/02	04/02/02	04/03/02
B14C95						
% MOISTURE	005	SO	02L%S031	03/25/02	04/02/02	04/03/02
% SOLIDS	005	SO	02L%S031	03/25/02	04/02/02	04/03/02
B14C96						
% MOISTURE	006	SO	02L%S031	03/25/02	04/02/02	04/03/02
% SOLIDS	006	SO	02L%S031	03/25/02	04/02/02	04/03/02

LIONVILLE LABORATORY INC.

Analytical Report

Client: TNU-HANFORD B99-093 H1730
LVL#: 0103L264

W.O.#: 11343-606-001-9999-00
Date Received: 03-26-02

INORGANIC NARRATIVE

1. This narrative covers the analyses of 6 solid samples.

2. The samples were prepared and analyzed in accordance with the method checked on the attached glossary.

3. Sample holding times as required by the method and/or contract were met.

4. All results presented in this report are derived form samples that met LvLI's sample acceptance policy.

5. The replicate analyses were within the 20% Relative Percent Difference (RPD) control limit.

6. I certify that this sample data package is in compliance with SOW requirements, both technically and for completeness, other than the conditions detailed above. Release of the data contained in this hard copy package has been authorized by the Laboratory Manager or a designee, as verified by the following signature.

Iain Daniels
Laboratory Manager
Lionville Laboratory Incorporated

04-08-02
Date

njp\i03-264

208 Welsh Pool Road • Lionville, PA 19341-1333 • (610) 280-3000 • Fax (610) 280-3041

Lionville Laboratory Incorporated

WET CHEMISTRY

METHODS GLOSSARY FOR SOIL/SOLIDS SAMPLE ANALYSIS

	ASTM	SW846	OTHER
% Ash	__ D2216-80		
% Moisture	✓ D2216-80		__ ILMO4.0 (e)
% Solids	✓ D2216-80		__ ILMO4.0 (e)
% Volatile Solids	__ D2216-80		
ASTM Extraction in Water	__ D3987-81/85		
BTU	__ D240-87		
CEC		__ 9081	__ c
Chromium VI		__ 3060A/7196A	
Corrosivity ___ by coupon ___ by pH		__ 1110(mod) __ 9045C	
Cyanide, Total		__ 9010B	__ ILMO4.0 (e)
Cyanide, Reactive		__ Section 7.3/9014	
Halides, Extractable Organic		__ 9020B	__ EPA 600/4/84-008
Halides, Total		__ 9020B	__ EPA 600/4/84-008
EP Toxicity		__ 1310A	
Flash Point		__ 1010	
Ignitability		__ 1010	
Oil & Grease		__ 9071A	
Carbon, Total Organic		__ 9060	__ Lloyd Kahn (mod)
Oxygen Bomb Prep for Anions	__ D240-87(mod)	__ 5050	
Petroleum Hydrocarbons, Total Recoverable		__ 9071	__ EPA 418.1
pH, Soil		__ 9045C	
Sulfide, Reactive		__ Section 7.3/9030B	
Sulfide		__ 9030B(mod)	
Specific Gravity	__ D1429-76C/	__ D5057-90	
Sulfur, Total		__ 9056	
Synthetic Preparation Leach		__ 1312	
Paint Filter		__ 9095A	
Other:	**Method:**		
Other:	**Method**		

Lionville Laboratory Incorporated

METHOD REFERENCES AND DATA QUALIFIERS

DATA QUALIFIERS

U = Indicates that the parameter was not detected at or above the reported limit. The associated numerical value is the sample detection limit.

* = Indicates that the original sample result is greater than 4x the spike amount added.

ABBREVIATIONS

MB = Method or Preparation Blank.
MS = Matrix Spike.
MSD = Matrix Spike Duplicate.
REP = Sample Replicate
LC = Laboratory Control Sample.
NC = Not calculated.

A suffix of -R, -S, or -T following these codes indicate a replicate, spike or sample duplicate analysis respectively.

ANALYTICAL WET CHEMISTRY METHODS

1. ASTM Standard Methods.

2. USEPA Methods for Chemical Analysis of Water and Wastes (USEPA 600/4-79-020).

3. Test Methods for Evaluating Solid Waste (USEPA SW-846).

a. Standard Methods for the Examination of Water and Waste, 16 ed, (1983).

b. Standard Methods for the Examination of Water and Waste, 17 ed, (1989)/18ed (1992).

c. Method of Soil Analysis, Part 1, Physical and Mineralogical Methods, 2nd ed, (1986).

d. Method of Soil Analysis, Part 2, Chemical and Microbiological Properties, Am. Soc. Agron., Madison, WI (1965).

e. USEPA Contract Laboratory Program, Statement of Work for Inorganic Analysis.

f. Code of Federal Regulations.

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 04/03/02

CLIENT: TNUHANFORD B99-093 H1730 LVL LOT #: 0203L264

WORK ORDER: 11343-606-001-9999-00

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-001	B14C91	% Moisture	26.8	%	0.01	1.0
		% Solids	73.2	%	0.01	1.0
-002	B14C92	% Moisture	38.1	%	0.01	1.0
		% Solids	61.9	%	0.01	1.0
-003	B14C93	% Moisture	39.5	%	0.01	1.0
		% Solids	60.5	%	0.01	1.0
-004	B14C94	% Moisture	18.0	%	0.01	1.0
		% Solids	82.0	%	0.01	1.0
-005	B14C95	% Moisture	4.2	%	0.01	1.0
		% Solids	95.8	%	0.01	1.0
-006	B14C96	% Moisture	37.6	%	0.01	1.0
		% Solids	62.4	%	0.01	1.0

Lionville Laboratory, Inc.

INORGANICS PRECISION REPORT 04/03/02

CLIENT: TNUHANFORD B99-093 H1730 LVL LOT #: 0203L264

WORK ORDER: 11343-606-001-9999-00

SAMPLE	SITE ID	ANALYTE	INITIAL RESULT	REPLICATE	RPD	DILUTION FACTOR(REP)
-001REP	B14C91	% Moisture	26.8	26.8	0.15	1.0
		% Solids	73.2	73.2	0.055	1.0

Lionville Laboratory Use Only

02032264

Custody Transfer Record/Lab Work Request

Page 1 of 1

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

LvLI

Client: TNU - HANFORD SAF B99-093

Est. Final Proj. Sampling Date: [illegible]

Project #: [illegible]

Project Contact/Phone #: [illegible]

Lionville Laboratory Project Manager: [illegible]

QC: SPEC TAT: 30 day

Date Rec'd: 3-26-02 Date Due: 4-25-02

Refrigerator #		1					
#/Type Container	Liquid						
	Solid	1/G					
Volume	Liquid						
	Solid	250					
Preservatives		—					
ANALYSES REQUESTED →		ORGANIC: VOA	BNA	Pest/PCB	Herb	INORG: Metal	CN

MATRIX CODES:
S - Soil
SE - Sediment
SO - Solid
SL - Sludge
W - Water
O - Oil
A - Air
DS - Drum Solids
DL - Drum Liquids
L - EP/TCLP Leachate
WI - Wipe
X - Other
F - Fish

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	8260 X % MST
001	B14C91			SO	3-25-02	1010	1
002	92			↓	↓	1020	1
003	93			↓	↓	1025	1
004	94			↓	↓	1035	1
005	95			↓	↓	1045	1
006	96			↓	↓	1055	1

Lionville Laboratory Use Only

Special Instructions: SAF # B99-093

VOA - Carbon Tetrachloride

Run Matrix QC

DATE/REVISIONS:
1.
2.
3.
4.
5.
6.

Lionville Laboratory Use Only

Samples were:
1) Shipped ✓ or Hand Delivered ___
Airbill # See Below
2) Ambient or Chilled
3) Received in Good Condition (Y) or N
4) Samples Properly Preserved (Y) or N
5) Received Within Holding Times (Y) or N

Tamper Resistant Seal was:
1) Present on Outer Package (Y) or N
2) Unbroken on Outer Package (Y) or N
3) Present on Sample (Y) or N
4) Unbroken on Sample (Y) or N

COC Record Present Upon Sample Rec't (Y) or N

Cooler Temp. 4 °C

Relinquished by	Received by	Date	Time
[signature]	[signature]	3-26-02	0945

Relinquished by	Received by	Date	Time
COMPOSITE WASTE	ORIGINAL REWRITTEN		

Discrepancies Between Samples Labels and COC Record? Y or (N)

NOTES: 7918 0206 4709

Bechtel Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	B99-093-42	Page 1 of 2
Collector: Doug Bowers	Company Contact: Virginia Rohay; Telephone No.: 372-9100	Project Coordinator: TRENT, SJ	Price Code 9N; Data Turnaround 45 Days
Project Designation: 200-ZP-2 Passive Soil Vapor Extraction - Other Solid	Sampling Location: 200 West	SAF No.: B99-093	Air Quality ☐
Ice Chest No.: ERC-01-063	Field Logbook No.: EL-1562-1; COA: R20ZP2DP60	Method of Shipment: Federal Express	
Shipped To: TMA/RECRA	Offsite Property No.: A020140	Bill of Lading/Air Bill No.: See OSPC	

POSSIBLE SAMPLE HAZARDS/REMARKS
Samples did not originate in radiological controlled area. No total activity associated with sample/samples. ZT

Special Handling and/or Storage

Preservation	Cool 4C
Type of Container	aG
No. of Container(s)	1
Volume	250mL
SAMPLE ANALYSIS	VOA - 8260A (TCL) (Carbon tetrachloride); Moisture Content - D2216

Sample No.	Matrix *	Sample Date	Sample Time	VOA - 8260A (TCL) (Carbon tetrachloride); Moisture Content - D2216									
B14C91	OTHER SOLID	3-25-02	1010	X				W18-6					
B14C92	OTHER SOLID	3-25-02	1020	X				W18-7					
B14C93	OTHER SOLID	3-25-02	1025	X				W18-40					
B14C94	OTHER SOLID	3-25-02	1035	X				W18-11					
B14C95	OTHER SOLID	3-25-02	1045	X				W18-247					

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Doug Bowers 063	3-25-02/1140	R Thoren	3-25-02 1150
R Thoren ERC	3-25-02 1200	FEDEX	
Fed Ex	3-26-02 1140	[illegible]	3-26-02/1140

SPECIAL INSTRUCTIONS
** Laboratory may use medium level preparation for VOA. They are to report any other halogenated compounds found.
** Laboratory must include the % Moisture data as part of all hard copy reports.

Matrix *
S=Soil
SE=Sediment
SO=Solid
SL=Sludge
W=Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
WI=Wipe
L=Liquid
V=Vegetation
X=Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

Bechtel Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	B99-093-42	Page 2 of 2

Collector: Doug Bowers
Company Contact: Virginia Rohay — **Telephone No.:** 372-9100
Project Coordinator: TRENT, SJ
Price Code: 9N
Data Turnaround: 45 Days
Project Designation: 200-ZP-2 Passive Soil Vapor Extraction - Other Solid
Sampling Location: 200 West
SAF No.: B99-093
Air Quality ☐
Ice Chest No.: ERC-01-063
Field Logbook No.: EL-1562-1
COA: R20ZP2DP60
Method of Shipment: Federal Express
Shipped To: TMA/RECRA
Offsite Property No.: A020140
Bill of Lading/Air Bill No.: See OSPC

POSSIBLE SAMPLE HAZARDS/REMARKS
Samples did not originate in radiological controlled area. No total activity associated with sample/samples.

Special Handling and/or Storage

Preservation	Cool 4C
Type of Container	aG
No. of Container(s)	1
Volume	250mL
SAMPLE ANALYSIS	VOA - 8260A (TCL) (Carbon tetrachloride); Moisture Content - D2216

Sample No.	Matrix *	Sample Date	Sample Time	VOA - 8260A (TCL); Moisture Content - D2216									
B14C96	OTHER SOLID	3-25-02	1055	X			w-18-252						
~~B14C97~~	~~OTHER SOLID~~												
~~B14C98~~	~~OTHER SOLID~~	B[illegible] 3/25/02											

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Doug Bowers	3/25/02 1150	K J Lu Finoren	3.25.02 1150
K J Lu Finoren ERC	3.25.02 1200	FEDEX	
Fed Ex	3-26-02 1140	[illegible signature]	3-26-02 1140

SPECIAL INSTRUCTIONS
** Laboratory may use medium level preparation for VOA. They are to report any other halogenated compounds found.
** Laboratory must include the % Moisture data as part of all hard copy reports.

Matrix *
S=Soil
SE=Sediment
SO=Solid
SL=Sludge
W = Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
WI=Wipe
L=Liquid
V=Vegetation
X=Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

BHI-EE-011 (03/01/2002)

LIONVILLE LABORATORY INCORPORATED
SAMPLE RECEIPT CHECKLIST

CLIENT: HANFORD

Purchase Order/Project:

DATE: 3/26/02

SAF# / SOW# / Release #: B99-093

Laboratory SDG #: 0203L264

NOTE: ALL ENTRIES MARKED "NO" MUST BE EXPLAINED IN THE COMMENT SECTION

1. Custody seals on coolers or shipping container intact, signed and dated?	☑ Yes	☐ No	☐ N/A	☐ see Comment #
2. Outside of coolers or shipping containers are free from damage?	☑ Yes	☐ No	☐ N/A	☐ see Comment #
3. Airbill # recorded?	☑ Yes	☐ No	☐ N/A	☐ see Comment #
4. All expected paperwork received (coc and other client specific: historical data, alpha/beta or other screening data as applicable)? (paperwork sealed in plastic bag and taped to inside lid)	☑ Yes	☐ No	☐ N/A	☐ see Comment #
5. Sample containers are intact?	☑ Yes	☐ No	☐ N/A	☐ see Comment #
6. Custody seals on sample containers intact, signed and dated?	☑ Yes	☐ No	☐ N/A	☐ see Comment #
7. All samples on coc received?	☑ Yes	☐ No	☐ N/A	☐ see Comment #
8. All sample label information matches coc?	☑ Yes	☐ No	☐ N/A	☐ see Comment #
9. Laboratory QC samples designated on coc? (QC stickers placed on bottles?)	☐ Yes	☑ No	☐ N/A	☐ see Comment #
10. Shipment meets LvLI Sample Acceptance Policy? (identify all bottles not within policy. See reverse side for policy)	☑ Yes	☐ No	☐ N/A	☐ see Comment #
11. Where applicable, bar code labels are affixed to coc?	☐ Yes	☐ No	☑ N/A	☐ see Comment #
12. coc signed and dated?	☑ Yes	☐ No	☐ N/A	☐ see Comment #
13. coc faxed or emailed to client?	☐ Yes	☐ No	☐ N/A	☐ see Comment #
14. Project Manager/Client contacted concerning discrepancies? (name/date)	☐ Yes	☐ No	☐ N/A	☐ see Comment #

Cooler # / temp and Comments:

FC-21-063 4°C

Laboratory Sample Custodian:

Laboratory Project Manager: